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Genus *Gonatocerus* Nees ab Esenbeck, 1834 (Hymenoptera: Mymaridae) in the Nearctic region: taxonomic notes and descriptions of three new species

Род *Gonatocerus* Nees ab Esenbeck, 1834 (Hymenoptera: Mymaridae) в Неарктическом регионе: таксономические заметки с описанием трех новых видов

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КЛЮЧЕВЫЕ СЛОВА: Chalcidoidea, Mymaridae, *Gonatocerus*, таксономия, определительный ключ, Северная Америка, яйцевой паразитоид.

ABSTRACT. Taxonomic notes on the Nearctic species of the fairyfly genus *Gonatocerus* Nees ab Esenbeck, 1834 (Hymenoptera: Mymaridae) are given, including new distribution records. Three new taxa are described: *G.* (*Cosmocomoidea*) *elizavetae* **sp.n.** (Illinois, USA), *G.* (*Cosmocomoidea*) *ermi* **sp.n.** (California, USA), and *G.* (*Lymaenon*) *vladimiri* **sp.n.** (New York, USA). *Gonatocerus* (*Gonatocerus*) *utahensis* Girault, 1917 **syn.n.** is synonymized under *G.* (*Gonatocerus*) *californicus* Girault, 1911. Four Nearctic species of the subgenus *G.* (*Lymaenon* Walker, 1846) are redescribed based on study of their type material. A lectotype is designated for *G. pygmaeus* Girault, 1911. Identification keys to the described Nearctic species of the subgenera *G.* (*Cosmocomoidea* Howard, 1908) and *G.* (*Lymaenon*) are provided.

РЕЗЮМЕ. Даны таксономические замтки о неарктических видах наездников-мимарид рода *Gonatocerus* Nees ab Esenbeck, 1834 (Hymenoptera: Mymaridae), включая новые данные о распространении. Описаны три новых таксона: *G.* (*Cosmocomoidea*) *elizavetae* **sp.n.** (Иллинойс, США), *G.* (*Cosmocomoidea*) *ermi* **sp.n.** (Калифорния, США) и *G.* (*Lymaenon*) *vladimiri* **sp.n.** (Нью-Йорк, США). *Gonatocerus* (*Gonatocerus*) *utahensis* Girault, 1917 **syn.n.** синонимизируется с *G.* (*Gonatocerus*) *californicus* Girault, 1911. Четыре неарктических вида подрода *G.* (*Lymaenon* Walker, 1846) переописаны на основании изучения их типового материала. Обозначен лектотип *G. pygmaeus* Girault, 1911. Даны ключи для определения описанных неарктических видов подродов *G.* (*Cosmocomoidea* Howard, 1908) и *G.* (*Lymaenon*).

Introduction

Since Huber [1988] revised two species groups of the common and speciose fairyfly (Hymenoptera: Mymaridae) genus *Gonatocerus* Nees ab Esenbeck, 1834 in North America north of Mexico, a number of new species and records were added to the knowledge of its fauna in the Nearctic region [Triapitsyn et al., 2002, 2006, 2010; Triapitsyn, 2006, 2013; Triapitsyn, Bernal, 2009]. Thus there has been a need to update the regional identification keys to the subgenera *G.* (*Gonatocerus* Nees ab Esenbeck, 1834) and *G.* (*Cosmocomoidea* Howard, 1908), as defined by Triapitsyn et al. [2010], species of which were revised by Huber [1988] as the *sulphuripes* and *ater* groups, respectively. The described Nearctic species of the subgenus *G.* (*Lymaenon* Walker, 1846), defined by Triapitsyn et al. [2010] and treated earlier by Huber [1988] as the *litoralis* species group, have never been reviewed or keyed. I am providing a key to their identification, redescribe and illustrate four species based mainly on study of their type material, and also describe one new, very distinctive species from Upstate New York, USA. Triapitsyn [2013] gave the detailed information on the occurrence of two widely distributed species, *G.* (*Lymaenon*) *aureus* Girault, 1911 and *G.* (*Lymaenon*) *litoralis* (Haliday, 1833), in North America. These are included in the key only but other data on them are omitted to avoid repetition. Two other new species described in this communication belong to the subgenus *G.* (*Cosmocomoidea*), for which an updated key to the Nearctic species is provided. Omitted from this review are two species of the subgenus *G.* (*Gastrogonatocerus* Ogloblin, 1935) that occur in the southern-

most part of the Nearctic region (Mexico); these were dealt with in detail in Triapitsyn et al. [2010].

This paper is dedicated to my parents.

The following acronyms are used to designate depositories of specimens: INHS — Illinois Natural History Survey, Champaign, Illinois, USA; TAMU — Department of Entomology, Texas A&M University, College Station, Texas, USA; UCDC — R.M. Bohart Museum of Entomology, University of California, Davis, California, USA; UCRC — Entomology Research Museum, University of California, Riverside, California, USA; USNM — National Museum of Natural History, Washington, District of Columbia, USA.

Terms used for morphological features are those of Gibson [1997], Huber [1988], and Triapitsyn et al. [2010]. All measurements were taken from slide-mounted specimens, unless stated otherwise, and are given in micrometers (μm), as length or, for the wings, as length:width. Abbreviations used in the text are: F — funicle segment(s) of the female antenna or flagellomere(s) of the male antenna; mps — multiporous plate sensillum or sensilla on the antennal flagellar segments (= longitudinal sensillum or sensilla or sensory ridge(s) of authors).

Subgenus *Gonatocerus* (*Gonatocerus* Nees ab Esenbeck, 1834)

Triapitsyn [2013] provided the first records of *G.* (*Gonatocerus*) *aegyptiacus* Soyka, 1950 (from Upstate New York, USA) and *G.* (*Gonatocerus*) *fuscicornis* (Walker, 1846) (from Alaska, USA) in the Nearctic region. Both (but especially the former) are very similar to *G.* (*Gonatocerus*) *californicus* Girault, 1911, known from the New World and the Hawaiian Islands [Triapitsyn et al., 2010], but the latter species has the female antenna with F1 strongly, deeply incised dorsoapically. In Huber [1988: 34], females of these species, all of which lack mps on F5, would key to couplets 4 and 5. To separate them, and considering the proposed synonymy of *G.* (*Gonatocerus*) *utahensis* Girault, 1917 under *G. californicus* (see below), these couplets in Huber's key are therefore modified as follows:

4(1). F5 with 2 mps 6
–. F5 without mps 5
5(4). F1 strongly, deeply incised dorsoapically *G.* (*Gonatocerus*) *californicus* Girault, 1911
–. F1 not incised dorsoapically, at most with a slight dorsoapical notch .... 5'
5'(5). Fore wing with discal setae originating behind base of marginal vein .... *G.* (*Gonatocerus*) *aegyptiacus* Soyka, 1950
–. Fore wing with discal setae originating behind about the middle of submarginal vein .... *G.* (*Gonatocerus*) *fuscicornis* (Walker, 1846)

Gonatocerus (*Gonatocerus*) *californicus* Girault, 1911

In the diagnosis of *G. californicus,* Triapitsyn et al. [2010] provided the reasons why this species may be conspecific with *G.* (*Gonatocerus*) *utahensis* Girault, 1917 **syn.n.** Here I formalize synonymy of the latter under *G.* (*Gonatocerus*) *californicus* Girault, 1911. Presence of intermediate forms in the same localities and at about the same time (particularly those from northern Mexico and Argentina) that are identifiable to either of these two taxa is indicative of their conspecificity, hence the synonymy. Such individuals (females) display a gradual range of the ovipositor length relative to the metatibia length, and also variable color patterns on the gaster. Host associations and biology of *G. californicus* in Argentina were recently reported by Luft Albarracin and Triapitsyn [2012].

Material examined. USA, California, Plumas Co., along Warner Creek, 8.5 km NW of Chester, S.L. Heydon [1 ♀, UCDC].

Extralimital record. Argentina, Catamarca, Palo Labrado, 23 km S of La Merced, 28°20′S 65°37′W, 734 m, M.E. Erwin, F.D. Parker [1 ♀, UCDC].

Gonatocerus (*Gonatocerus*) *maga* Girault, 1911

Material examined. USA: Florida, Jefferson Co., Monticello, University of Florida North Florida Research & Education Center, R. Mizell, III: 16.ix.2001 [1 ♀, UCRC]; 5.x.2001 [1 ♀, UCRC]. Maryland, Montgomery Co., Silver Spring, 28.vii–4.viii.1990, E.E. Grissell [1 ♀, UCRC]. New York, Seneca Co., 4.5 mi. SW of Lodi, 42°33′45.5″N 76°52′27.2″W, 202 m, Silver Thread Vineyard, 17.viii–14.ix.2011, S.V. Triapitsyn, G. Loeb [1 ♀, UCRC].

Gonatocerus (*Gonatocerus*) *mexicanus* Perkins, 1912

Material examined. Canada, Ontario, Guelph, University of Guelph Arboretum, 43°32′N 80°13′W, 13–21.vi.2006, L. Coote [1 ♀, UCRC].

Gonatocerus (*Gonatocerus*) *rivalis* Girault, 1911

Material examined. USA: Georgia, Gordon Co., Fairmount, Salacoa Creek, 34°24′12″N 84°40′08″W, 16.v.2002, D. Yanega [5 ♀♀, UCRC]. New York, Seneca Co., 4.5 mi. SW of Lodi, 42°33′45.5″N 76°52′27.2″W, 202 m, Silver Thread Vineyard, 7–24.v.2011, S.V. Triapitsyn, G. Loeb [1 ♀, UCRC].

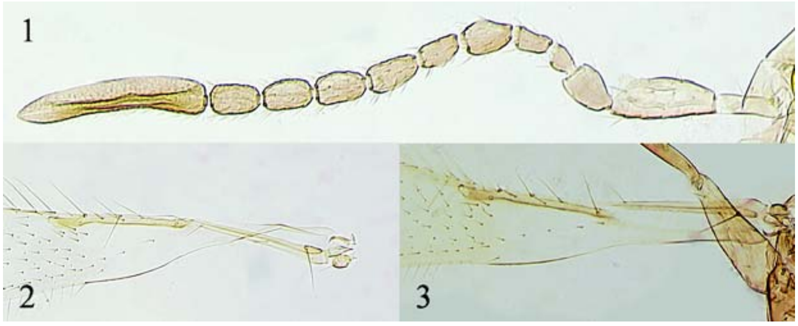
Subgenus *Gonatocerus* (*Cosmocomoidea* Howard, 1908)

Triapitsyn [2013] provided first records of *G.* (*Cosmocomoidea*) *ater* Foerster, 1841 *s.l.* (from California and Upstate New York, USA), some additional records of *G.* (*Cosmocomoidea*) *latipennis* Girault, 1911 from the USA, and also gave information on the occurrence of *G.* (*Cosmocomoidea*) *oxypygus* Foerster, 1856 (records from Upstate New York, USA) in the Nearctic region. Triapitsyn et al. [2010] reported records of *G. latipennis* from the Nearctic part of Mexico. An updated key to the Nearctic species of *G.* (*Cosmocomoidea*) presented below includes 24 valid species, integrating the additions made by Triapitsyn et al. [2002, 2006, 2010], Triapitsyn [2006, 2013], and Triapitsyn and Bernal [2009], as well as the new species described herein. It is based on the previous key to females of the *ater*-group species of *Gonatocerus* in North America

north of Mexico by Huber [1988] and also on the key in Triapitsyn [2006], with many modifications, while expanding the scope to include the Nearctic part of Mexico. Species groups and subgroups of *G.* (*Cosmocomoidea*) were defined by Triapitsyn et al. [2010]; all Nearctic species of this subgenus belong to the *ater* species group.

Key to females of the Nearctic species of *Gonatocerus* (*Cosmocomoidea*)

1. Propodeum distinctly rugose lateral to submedian carinae, at least posteriorly (*morrilli* subgroup of the *ater* species group) 2
–. Propodeum entirely smooth lateral to submedian carinae (*ater* and *bucculentus* subgroups of the *ater* species group) 5
2(1). Head and mesosoma mostly dark brown to black 3
–. Head and mesosoma mostly yellow-brown 4
3(2). F5 brown basally and whitish or light brownish apically, F6 whitish-light brownish; propodeum with submedian carinae very thick and not meeting anteriorly .... *G.* (*Cosmocomoidea*) *morgani* Triapitsyn, 2006
–. F5 dark brown, F6 yellow to light brown; propodeum with submedian carinae very thin and meeting anteriorly *G.* (*Cosmocomoidea*) *chula* Triapitsyn et Bernal, 2009
4(2). Propodeum with submedian carinae parallel and closer to each other .... *G.* (*Cosmocomoidea*) *morrilli* (Howard, 1908)
–. Propodeum with submedian carinae curved and more apart from each other .... *G.* (*Cosmocomoidea*) *walkerjonesi* Triapitsyn, 2006
5(1). Back of head with round or oval occipital sulcus reaching genal margin; gena appearing swollen posterior to constriction caused by occipital sulcus (best seen in lateral view or in slide-mounted specimens in frontal view) (*bucculentus* subgroup of the *ater* species group) 20
–. Back of head entire, without sulcus; gena appearing flat in lateral view and not swollen (in frontal view) in slide-mounted specimens (*ater* subgroup of the *ater* species group) 6
6(5). Fore wing with cubital row of setae complete or almost complete, extending or almost extending to base of marginal vein 7
–. Fore wing with cubital row of setae incomplete, not extending to base of marginal vein (at most with a few setae behind apex of venation and/or just below marginal vein) 12
7(6). Fore wing disc without setae between marginal vein and cubital row of 4 or 5 setae (Figs 2, 3) .... *G.* (*Cosmocomoidea*) *elizavetae* Triapitsyn, **sp.n.**
–. Fore wing disc with several setae between marginal vein and cubital row of more than 6 setae 8
8(7). F5–F7 distinctly lighter than other funicle segments.. .... *G.* (*Cosmocomoidea*) *atriclavus* Girault, 1917
–. F5–F7 concolorous with other funicle segments 9
9(8). Fore wing disc with a narrow, distinct brown fascia extending from stigmal vein to hind margin .... *G.* (*Cosmocomoidea*) *fasciatus* Girault, 1911
–. Fore wing disc without such fascia or slightly, more or less uniformly, infumate 10
10(9). Head and mesosoma mostly yellow, with some brown .... *G.* (*Cosmocomoidea*) *triguttatus* Girault, 1916
–. Head and mesosoma mostly dark brown except mesosomal sternum with a distinct, well-defined yellow streak between each fore and middle coxae 11
11(10). F1 without mps; fore wing disc almost hyaline, at most with a faint, uniform brownish tinge .... *G.* (*Cosmocomoidea*) *ashmeadi* Girault, 1915
–. F1 usually with 2 mps, rarely with 1 mps; fore wing disc notably infuscate beyond venation, more conspicuously so behind apex of venation .... *G.* (*Cosmocomoidea*) *uat* Triapitsyn, 2006
12(6). Ovipositor markedly exserted beyond apex of gaster (by 0.2–0.4x own length); when very long, ovipositor and/or ovipositor sheaths often a little bent down apically .... *G.* (*Cosmocomoidea*) *oxypygus* Foerster, 1856
–. Ovipositor not or barely (by less than 0.1x own length) exserted beyond apex of gaster, ovipositor and/or ovipositor sheaths not bent down apically 13
13(12). Fore wing disc with a distinct infumate spot just beyond apex of venation .... *G.* (*Cosmocomoidea*) *novifasciatus* Girault, 1911
–. Fore wing disc without such infumate spot 14
14(13). Submedian carinae on propodeum relatively thick, distinctly and more or less evenly bowed out medially, extending to dorsellum anteriorly and delimiting median oval area on propodeum 15
–. Submedian carinae on propodeum relatively thin, straight, parallel or subparallel, not extending (or sometimes almost extending) to dorsellum anteriorly and thus only partially delimiting more or less rectangular median area on propodeum 16
15(14). Radicle relatively long (Fig. 4), about 0.4x total length of scape (i.e., scape plus radicle) .... *G.* (*Cosmocomoidea*) *ermi* Triapitsyn, **sp.n.**
–. Radicle relatively short, about 0.2x total length of scape .... *G.* (*Cosmocomoidea*) *latipennis* Girault, 1911
16(14). Scape abruptly and conspicuously wider than a relatively long radicle at junction .... *G.* (*Cosmocomoidea*) *inflatiscapus* Huber, 1988
–. Scape smoothly merging into a relatively short radicle at junction 17
17(16). Scape minus radicle at most 2.3x as long as wide .. .. *G.* (*Cosmocomoidea*) *ater* Foerster, 1841 *s.l.*
–. Scape minus radicle at least 2.7x as long as wide 18
18(17). Mps absent on F1–F4 .... *G.* (*Cosmocomoidea*) *capitatus* Gahan, 1932
–. Mps present on at least one funicle segment of F1–F4, at least on one antenna 19
19(18). F3–F8 each with 2 mps .... *G.* (*Cosmocomoidea*) *incomptus* Huber, 1988 *s.str.*
–. F3 with 1 mps at least on one antenna, F4 and F6 without mps, F5 and F7–F8 each with 2 mps .... *G.* (*Cosmocomoidea*) *impar* Huber, 1988 *s.str.*
20(5). F2 with 2 mps; cubital row of setae on fore wing usually complete 21
–. F2 without mps or, rarely, with 1 mps; cubital row of setae on fore wing incomplete 23
21(20). Fore wing disc with 2 wide, brown fasciae .... *G.* (*Cosmocomoidea*) *inexpectatus* Huber, 1988
–. Fore wing disc without fasciae 22
22(21). Pronotum brown, concolorous with rest of mesosoma .... *G.* (*Cosmocomoidea*) *dolichocerus* Ashmead, 1887
–. Pronotum white, contrasting strongly in color with dark brown rest of mesosoma .... *G.* (*Cosmocomoidea*) *bucculentus* Huber, 1988



Figs 1–3. *Gonatocerus* (*Cosmocomoidea*) *elizavetae* sp.n., ♀ holotype: 1 — antenna; 2 — right fore wing base; 3 — left fore wing base.

Рис. 1–3. *Gonatocerus* (*Cosmocomoidea*) *elizavetae* sp.n., ♀ голотип: 1 — усик; 2 — основание правого переднего крыла; 3 — основание левого переднего крыла.

23(20). Head (except trabeculae) and mesosoma mostly yellow or sometimes with limited light brown areas .... *G.* (*Cosmocomoidea*) *flagellatus* Huber, 1988
–. Head and mesosoma uniformly dark brown .... *G.* (*Cosmocomoidea*) *bonariensis* (Brèthes, 1922)

Gonatocerus (*Cosmocomoidea*) *ashmeadi* Girault, 1915

Material examined. USA, California, Orange Co., Irvine, Northwood Pointe, S.V. Triapitsyn: 33°43′18″N 117°45′12″W, 76 m, 7.viii.2011, on Lombardy poplar, *Populus nigra* Linnaeus [1 ♀, UCRC]; 4.iv.2012, from an egg of *Homalodisca vitripennis* (Germar, 1821) [1 ♂, UCRC].

Gonatocerus (*Cosmocomoidea*) *ater* Foerster, 1841 *s.l.*

Material examined. Canada, British Columbia, Oliver, 9.vi.2004, [T. Lowery], from leafhopper egg on grape, *Vitis* sp. [1 ♀, UCRC]. This species is for the first time recorded from Canada.

Gonatocerus (*Cosmocomoidea*) *capitatus* Gahan, 1932

Material examined. Mexico, Nuevo León: Municipio Allende: Lazarillos de Abajo, 9.vii.1983, A. González-Hernández [1 ♀, UCRC]. Raíces, Río Ramos, 9.vii.1983, F. Reyes-Vélez [1 ♀, UCRC]. Municipio Cadereyta Jiménez, San Juan, Río San Juan, 14.vii.1983: F. Reyes-Vélez [3 ♀♀, UCRC]; M.A. Rodríguez-Pérez [2 ♀♀, UCRC]. Municipio Ciénega de Flores, Hacienda La Amistad, 10.vii.1983, A. González-Hernández [1 ♀, UCRC]. Municipio El Carmen: El Carmen, 10.vii.1983: A. González-Hernández [2 ♀♀, UCRC]; G. Gordh [2 ♀♀, UCRC]. Hacienda Bernabé Villarreal, 10.vii.1983, M.A. Rodríguez-Pérez [1 ♀, UCRC]. Municipio Escobedo, Hacienda El Canada, 12.vii.1983: A. González-Hernández, M.A. Rodríguez-Pérez [3 ♀♀, UCRC]; G. Gordh [1 ♀, UCRC]. USA, California: Riverside Co., Mecca, end of 62nd Avenue, 1.v. 1986, M.S. Moratorio, W. White, on saltbush, *Atriplex* sp. [1 ♀, UCRC]. Ventura Co., Piru, 29.viii.1964, T. Stewart, on orange, *Citrus sinensis* (Linnaeus) Osbeck [5 ♀♀, UCRC].

Gonatocerus (*Cosmocomoidea*) *dolichocerus* Ashmead, 1887

Material examined. USA, New York, Ontario Co., Geneva, 42°52′46″N 77°00′40″W, 185 m, 3.viii.2010, S.V. Triapitsyn, on Lombardy poplar, *Populus nigra* Linnaeus (roadside of County Road 6) [1 ♀, UCRC].

Gonatocerus (*Cosmocomoidea*) *elizavetae* Triapitsyn, **sp.n.**

Figs 1–3.

Type material. Holotype ♀ [USNM] on slide originally labeled: 1. "*Gonatocerus rossi* Dozier [H.L. Dozier's manuscript name] Swept from vege-tation in bed of creek. Elizabethtown, Ill. Aug. 5–1932 H. L. Dozier"; 2 [red] "*Gonatocerus rossi* Dozier Type No. U.S.N.M.". The holotype was remounted and dissected under five coverslips at UCRC from the original poor slide mount of an uncleared, incomplete, unspread, and thus very difficult to see specimen; it lacks funicle of one antenna, parts of the fore wings, both hind wings, and some leg segments. The type locality (Elizabethtown) is a village in Hardin County, Illinois, USA.

Description. Female. Body, scape, and legs mostly light brown except gastral terga with brown bands; pedicel and flagellum brown to dark brown.

Antenna (Fig. 1) with radicle 0.38x total length of scape, rest of scape 2.4x as long as wide, slightly longitudinally striate (almost smooth); pedicel longer than F1; F1 the shortest funicle segment, F3 and F5–F8 a little longer than F2 or F4; mps on F3 (2), F5 (2), F6 (2), F7 (2), and F8 (2); clava with 8 mps, about 2.4x as long as wide, longer than combined length of F6–F8.

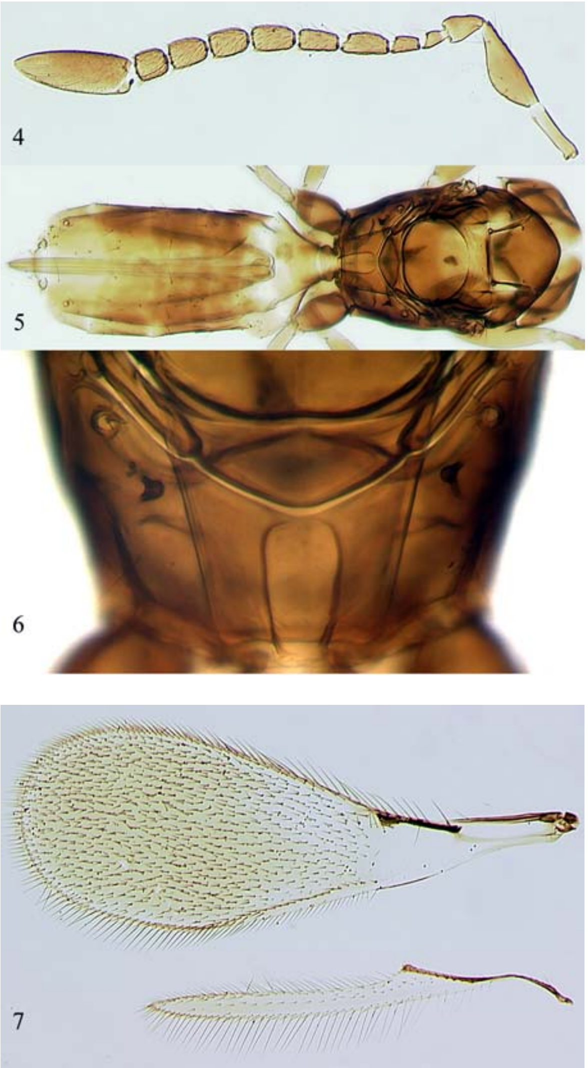
Mesosoma with mesoscutum and scutellum almost smooth. Propodeum with fine, inconspicuous submedian carinae a little narrowing toward each other anteriorly and not extending to propodeal anterior margin. Fore wing about 3.9x as long as wide; longest marginal seta about 0.37x maximum wing width; disc with a slight brownish tinge throughout, bare behind marginal vein except for a complete (or almost complete) cubital row of 4 or 5 setae (no setae between cubital row and marginal vein, Figs 2, 3), and densely setose behind and beyond stigmal vein.

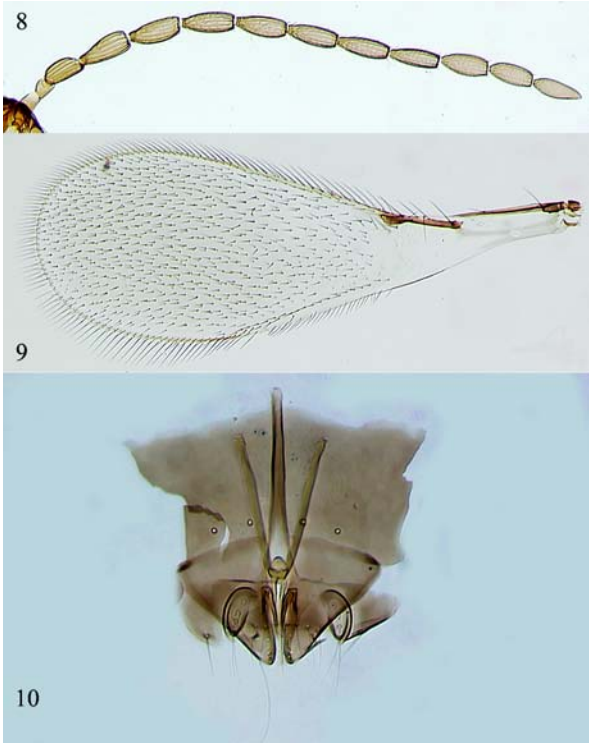
Ovipositor not exserted beyond gastral apex; ovipositor length: mesotibia length ratio 1.25:1.

Measurements (μm) of the holotype. Mesosoma 341; ovipositor 308. Antenna: radicle 61; rest of scape 99; pedicel 49; F1 27; F2 36; F3 45; F4 39; F5 49; F6 49; F7 47; F8 49; clava 179. Fore wing 836:215; longest marginal seta 80.

Male. Unknown.

Diagnosis. *Gonatocerus elizavetae* is a member of the *ater* subgroup of the *ater* species group of *G.* (*Cos-





Figs 4–10. *Gonatocerus* (*Cosmocomoidea*) *ermi* sp.n., ♀ holotype (4–7), ♂ paratype (8–10): 4, 8 — antenna; 5 — mesosoma and metasoma; 6 — dorsellum and propodeum; 7 — wings; 9 — fore wing; 10 — genitalia.

Рис. 4–6. *Gonatocerus* (*Cosmocomoidea*) *ermi* sp.n., голотип ♀ (4–7), паратип ♂ (8–10): 4, 8 — усик; 5 — мезосома и метасома; 6 — щит заднеспинки и промежуточный сегмент; 7 — крылья; 9 — переднее крыло; 10 — гениталии.

mocomoidea) as defined by Triapitsyn et al. [2010]. It does not key to any species in Huber [1988] and is unique among the Nearctic species of this subgenus in having a relatively narrow fore wing with disc bare behind marginal vein except for a complete (or almost complete) cubital row of 4 or 5 setae and no setae between cubital row and marginal vein (Figs 2, 3). It was thus correctly identified by Herbert L. Dozier as an undescribed species.

Etymology. The species is named after my mother.

Hosts. Unknown.

Gonatocerus (*Cosmocomoidea*) *ermi* Triapitsyn, **sp.n.**
Figs 4–10.

Gonatocerus latipennis Girault: Boyd et al., 2004: 95–97 (misidentification; host association, illustration of female habitus); Boyd and Hoddle, 2006: 1154–1155, 1158–1159, 1163 (misidentification; host association).

Gonatocerus (*Cosmocomoidea*) sp.: Triapitsyn, 2013: 146–147 (as an undescribed species different from *G. latipennis*).

Type material. Holotype ♀ [UCRC] on slide: USA, California, Riverside Co., near Temecula, Sandia Creek near De Luz Rd., 5.viii.2003, E.A. Boyd, emerged 20.viii.2003 from tendrils of wild grape, *Vitis californica* Bentham, heavily infested with blue-green sharpshooter, *Graphocephala atropunctata* (Signoret, 1854) [UCRC ENT 136625]. The holotype lacks one hind wing. Paratype: same data as the holotype [1 ♂ on slide, UCRC ENT 136626]. The collecting locality was “site 1” (33°29.468′N 117°14.897′W, 322 m) as specified by Boyd and Hoddle [2006].

Description. Female. Body and appendages mostly dark brown except radicle, base of gaster, and tarsi light brown to brown.

Antenna (Fig. 4) with radicle very long, about 0.4x total length of scape, rest of scape 2.7x as long as wide, slightly longitudinally striate, scape considerably wider than radicle right after junction; pedicel longer than F1; F1 the shortest funicle segment, F2 shorter than following funicle segments, F4 slightly shorter than F3 or F5; mps on F3 (2), F4 (1 or 2), F5 (2), F6 (2), F7 (2), and F8 (2); clava with 8 mps, about 2.9x as long as wide, almost as long as combined length of F6–F8.

Mesosoma (Fig. 5) with mesoscutum and scutellum smooth; a pair of very short and weak scutellar setae present. Propodeum (Fig. 6) with well-developed submedian carinae notably curving and narrowing toward

each other anteriorly and extending or almost extending to propodeal anterior margin; propodeal spiracle round. Fore wing (Fig. 7) 2.8x as long as wide; longest marginal seta 0.19x maximum wing width; disc with an uneven brownish tinge especially conspicuous beyond venation, bare behind venation except for a few setae just behind stigmal vein and densely setose elsewhere. Hind wing (Fig. 7) 13x as long as wide; disc unevenly setose and with a slight brownish tinge; longest marginal seta 1.5x maximum wing width.

Metasoma (Fig. 5) longer than mesosoma. Petiole 2.3x as long as wide. Ovipositor 0.85x length of gaster, barely exserted beyond its apex; ovipositor length: mesotibia length ratio 1.5:1.

Measurements (µm) of the holotype. Mesosoma 504; petiole 33; gaster 615; ovipositor 537. Antenna: radicle 91; rest of scape 139; pedicel 62; F1 33; F2 42; F3 70; F4 60 (64); F5 66; F6 61; F7 58; F8 51; clava 170. Fore wing 1212:430; longest marginal seta 81. Hind wing 953:73; longest marginal seta 109.

Male. Body length 1273 µm. Similar to female except for the normal sexually dimorphic features and the following. Antenna (Fig. 8) with scape plus radicle very short, 2.4x as long as wide, faintly striate. Fore wing (Fig. 9) 2.8x as long as wide, somewhat less conspicuously infumate than in female. Genitalia as in Fig. 10.

Diagnosis. *Gonatocerus ermi* is a member of the *ater* subgroup of the *ater* species group of *G.* (*Cosmocomoidea*) as defined by Triapitsyn et al. [2010]. It is similar to *G. latipennis*, to which (in couplet 8) it would key in Huber [1988], and also to the New World species *G.* (*Cosmocomoidea*) *novifasciatus* Girault, 1911 but differs from both taxa in having a significantly longer radicle of the female antenna (Fig. 4) which is about 0.4x total length of scape (at most about 0.2x length of scape in the other two species), and also from *G. latipennis* by a relatively longer ovipositor which is 1.5x as long as mesotibia (at most 1.3x as long as mesotibia but usually less in *G. latipennis*), and from *G. novifasciatus* in lacking a basal infumate spot on the fore wing disc. From other two Nearctic species, *G.* (*Cosmocomoidea*) *impar* Huber, 1988 and *G.* (*Cosmocomoidea*) *incomptus* Huber, 1988, in both of which the scape of female antenna is smoothly merging into radicle, without an abrupt change in width at junction [Huber, 1988], *G. ermi* also differs considerably in the shape and development of the propodeal submedian carinae.

Etymology. The species is named after the Entomology Research Museum at the University of California, Riverside, which houses the UCRC and is commonly abbreviated as ERM.

Host. *Graphocephala atropunctata* (Signoret, 1854) (Cicadellidae) [Boyd et al., 2004; Boyd, Hoddle, 2006] (as *G. latipennis*).

Comments. After a recent, thorough examination of more well-prepared specimens of *G. latipennis* from North America [Triapitsyn, 2013], I determined that the reported parasitoid of *G. atropunctata* rather belongs to a new species which is described here as *G. ermi*.

Gonatocerus (*Cosmocomoidea*) *fasciatus* Girault, 1911

Material examined. USA: California, Siskiyou Co., Hwy. 3, 4.7 km SW of Yreka, 41°40′39″N 122°43′23″W, 1.v.2005, R.A. Rakitov [8 ♀♀, 15 ♂♂, UCRC]. Florida, Orange Co., Apopka, 7.iii.1975 [1 ♀, TAMU]. Georgia, Gordon Co., Fairmount, Salacoa Creek, 34°24′12″N 84°40′08″W, 16.v.2002, D. Yanega [1 ♀, 2 ♂♂, UCRC]. Maryland, Prince George's Co., Patuxent Wildlife Research Center, 20.vi.1984, M.E. Schauff [8 ♀♀, USNM]. Mississippi, Washington Co., near Stoneville, Delta Experimental Forest, 33°29′N 90°54′W, 17.v–2.vi.1999, N.M. Schiff [1 ♀, UCDC]. Texas, Nacogdoches Co., Angelina National Forest, Steven F. Austin Experimental Forest, 30°31′N 94°47′W, N.M. Schiff, C. Rudolph: 30.iv–16.v.2005 [1 ♀, UCDC]; 16.v–5.vi.2005, [1 ♀, UCDC]. Virginia, Clarke Co., 2 mi. S of Boyce, University of Virginia Blandy Experimental Farm, D.R. Smith: 8–18.vi.1990 [1 ♀, USNM]; 1–12.vii.1990 [1 ♀, USNM].

Gonatocerus (*Cosmocomoidea*) *incomptus* Huber, 1988 *s.str.*

Material examined. USA: California, Riverside Co., Palm Desert, 33.73428°N 116.38773°W, 15.x.2003, J. Nichols, from eggs of *Homalodisca vitripennis* (Germar, 1821) [2 ♀♀, 2 ♂♂, UCRC]. Texas, Gillespie Co., Fredericksburg, Marktplatz, 21.vi. 2006, A. Hassell, D. Voulgaris, from eggs of *H. vitripennis* on crape myrtle, *Lagerstroemia indica* (Linnaeus) Persoon [1 ♀, 1 ♂, UCRC].

Gonatocerus (*Cosmocomoidea*) *inexpectatus* Huber, 1988

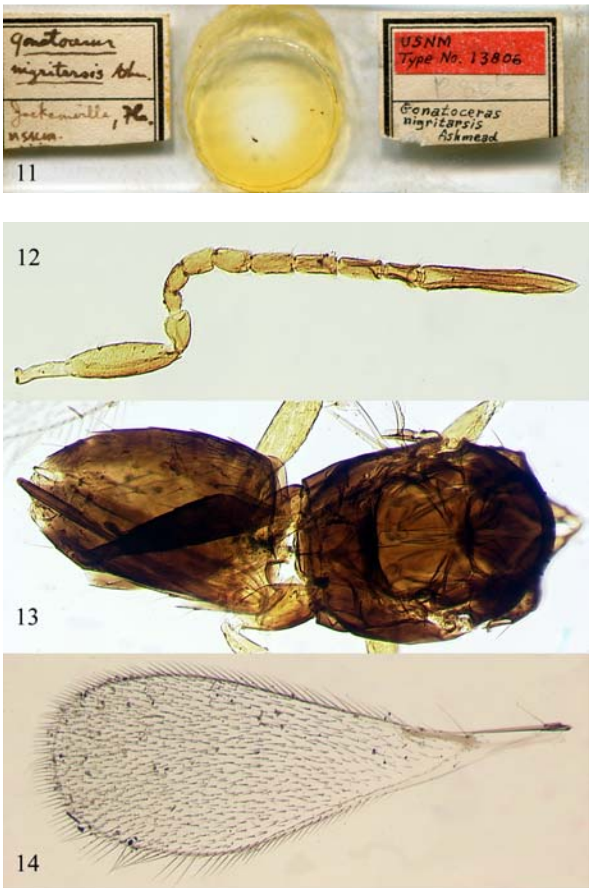
Material examined. USA, Louisiana, East Baton Rouge Parish, Baton Rouge, 2–4.iv.2002, S.V. Triapitsyn [1 ♀, UCRC].

Gonatocerus (*Cosmocomoidea*) *morgani* Triapitsyn, 2006

Material examined. USA, CALIFORNIA: Los Angeles Co., Pomona, 34.05974°N 117.80969°W, 26.x.2010, J. Jordan, from eggs of *Homalodisca vitripennis* (Germar, 1821) on citrus, *Citrus* sp. [1 ♀, 2 ♂♂, UCRC]. Orange Co., Irvine, University of California South Coast Research and Extension Center, 33°41′29″N 117°42′59″W, 135 m, 5.xi.2010, C. Butler, from eggs of *H. vitripennis* [1 ♀, 2 ♂♂, UCRC].

Subgenus *Gonatocerus* (*Lymaenon* Walker, 1846)

Here I provide taxonomic notes and brief redescriptions of the described, valid Nearctic species of the subgenus *G.* (*Lymaenon*) other than *G. aureus* and *G. litoralis*, which were treated by Triapitsyn [2013] because they also occur in the Palaearctic region. A key to the described Nearctic species of *G.* (*Lymaenon*) is given to update the key to the North American species of *Gonatocerus* by Girault [1929] by including only species belonging to *G.* (*Lymaenon*) and the new species described herein. A taxonomic revision of the Nearctic species of *G.* (*Lymaenon*) is needed but that is beyond the scope of this study.



Figs 11–14. *Gonatocerus* (*Lymaenon*) *nigritarsis*, ♀ holotype: 11 — slide; 12 — antenna; 13 — mesosoma and metasoma; 14 — fore wing.

Рис. 11–14. *Gonatocerus* (*Lymaenon*) *nigritarsis*, голотип ♀: 11 — препарат; 12 — усик; 13 — мезосома и метасома; 14 — переднее крыло.

Key to females of the described Nearctic species of *Gonatocerus* (*Lymaenon*)

1. Fore wing disc with apical third strongly infumate (forming a large brownish band) and remainder of disc contrastingly hyaline (Fig. 20) .... *G.* (*Lymaenon*) *partifuscipennis* Girault, 1916
–. Fore wing hyaline or at most slightly, uniformly infumate throughout 2
2(1). F3 and F4 with mps .... *G.* (*Lymaenon*) *nigritarsis* Ashmead, 1887
–. F3 and F4 without mps 3
3(2). F6 with mps 4
–. F6 without mps 6
4(3). Clava with 6 mps; fore wing at least 4.4x as long as wide .... *G.* (*Lymaenon*) *aureus* Girault, 1911
–. Clava with at least 10 mps; fore wing about 3.1x as long as wide 5
5(4). Ovipositor about 1.9x mesotibia length, exserted beyond apex of gaster by about 0.1x own length (Fig. 16) ………….....…… *G.* (*Lymaenon*) *ornatus* Gahan, 1918
–. Ovipositor about 1.4x mesotibia length, not exserted beyond apex of gaster .... *G.* (*Lymaenon*) *vladimiri* Triapitsyn, **sp.n.**
6(3). F3 at most subequal in length to F1, F2, or F4; F7 with at least 1 mps (usually with 2) .... *G.* (*Lymaenon*) *litoralis* (Haliday, 1833)
–. F3 longer than F1, F2, or F4; F7 without mps .... *G.* (*Lymaenon*) *pygmaeus* Girault, 1911

Gonatocerus (*Lymaenon*) *nigritarsis* Ashmead, 1887
Figs 11–14.

Gonatocerus nigritarsis Ashmead, 1887: 192–193. Type locality: Jacksonville, Duval Co., Florida, USA.

Gonatocerus nigritarsis Ashmead: Girault, 1911: 264–265 (comparison), 273 (key), 275 (redescription, type information); Girault, 1929: 25 (key); Huber, 1988: 31 (member of the *litoralis* species group); Yoshimoto, 1990: 41 (list, member of the *litoralis* species group).

Lymaenon nigritarsis (Ashmead): Burks, 1958: 63 (catalog — not actually listed but referring to Peck [1951]); Peck, 1963: 24 (catalog).

Type material examined. Holotype ♀ [USNM] on slide (Fig. 11) labeled: 1. “*Gonatocerus nigritarsis* Ashm. Jacksonville, Fla. USNM.”; 2. [red] “USNM Type No. 13806”; 3. “*Gonatocerus nigritarsis* Ashmead”. The holotype is uncleared; the body (Fig. 13) is mounted dorsoventrally, with the head, one antenna (Fig. 12), and one middle leg detached; lacking are one antenna, a hind wing, one middle leg, and tibia and tarsus of one of the hind legs.

Brief redescription. Female. Body length of the holotype (without head) 830 µm. Body (Fig. 13) mostly dark brown or black. Antenna (Fig. 12) with F1 and F2 shorter than following funicle segments and without mps, F3–F8 subequal in length and with mps (apparently F3 and F4 with 1 mps and F5–F8 each with at least 2 mps); fore wing (Fig. 14) 2.9x as long as wide, disc slightly infumate and more or less uniformly setose behind marginal vein; ovipositor a little more than 1.3x mesotibia length, occupying entire length of gaster and barely exserted beyond its apex (Fig. 13).

Male. Unknown.

Distribution. USA.

Hosts. Unknown.

Gonatocerus (*Lymaenon*) *ornatus* Gahan, 1918
Figs 15–17.

Gonatocerus ornatus Gahan, 1918: 23–24. Type locality: Tempe, Maricopa Co., Arizona, USA.

Lymaenon ornatus (Girault): Burks, 1958: 63 (catalog — not actually listed but referring to Peck [1951]); Peck, 1963: 25 (catalog).

Gonatocerus ornatus Gahan: Huber, 1988: 31 (member of the *litoralis* species group); Yoshimoto, 1990: 41 (list, member of the *litoralis* species group).

Type material examined. Holotype ♀ [USNM] on slide (Fig. 15) labeled: 1. “*Gonatocerus ornatus* Gahan. Type and allotype Reared from eggs of *Stictocephala festina* V. L. Wildermuth, Coll. Tempe, Ariz. Webst #6190x (♀ Tempe #2739. Tempe #2738”; 2. [red] “TypeNo. 21698 U.S.N.M. The holotype (Fig. 16) is complete but uncleared, mounted laterally. Allotype ♂ (Fig. 17) on the same slide as the holotype but mounted under a separate coverslip, also uncleared. Other paratypes (18 ♀♀ and 17 ♂♂, all on points in USNM) have not been examined.

Brief redescription. Female. Body length of the holotype 984 µm. Antenna with F1–F4 (without mps) shorter than F5–F8 (each with 2 mps), F8 a little shorter than F5, F6, or F7, clava apparently with at least 10 mps; fore wing about 3.1x as long as wide, with disc



Figs 15–17. *Gonatocerus* (*Lymaenon*) *ornatus*, ♀ holotype (15, 16), ♂ allotype (17): 15 — slide; 16, 17 — habitus.
Рис. 15–17. *Gonatocerus* (*Lymaenon*) *ornatus*, голотип ♀ (15, 16), аллотип ♂ (17): 15 — препарат; 16, 17 — габитус.

uniformly infumate throughout and more or less evenly setose behind marginal vein; ovipositor about 1.9x mesotibia length, exserted beyond apex of gaster by about 0.1x own length.

Male. Body length of the allotype 861 µm. Similar to female except for the normal sexually dimorphic features such as antenna and genitalia. Fore wing about 3.0x as long as wide.

Diagnosis. *Gonatocerus ornatus* is similar to *G.* (*Lymaenon*) *pratensis* (Ogloblin, 1936), known from Argentina and Uruguay, but the latter seems to have a relatively shorter ovipositor which is 1.5–1.6x as long as mesotibia [Triapitsyn et al., 2010] and possibly also a somewhat different body coloration. *Spissistilus* Caldwell, 1949, the host genus of *G. ornatus*, occurs in Argentina. It would be interesting to see if species of *Spissistilus* are parasitized by *G. pratensis* in its native range.

Distribution. USA.

Host. *Spissistilus festinus* (Say, 1830) (Membracidae) [Gahan, 1918] (as *Stictocephala festina* Say).

Gonatocerus (*Lymaenon*) *partifuscipennis* Girault, 1916

Figs 18–20.



Figs 18–20. *Gonatocerus* (*Lymaenon*) *partifuscipennis*, ♀ holotype: 18 — slide; 19 — habitus; 20 — fore wing.

Рис. 18–20. *Gonatocerus* (*Lymaenon*) *partifuscipennis*, голотип ♀: 18 — препарат; 19 — габитус; 20 — переднее крыло.

Gonatocerus partifuscipennis Girault, 1916: 102. Type locality: Glenn Dale (as Glenndale), Prince George's Co., Maryland, USA.

Gonatocerus partifuscipennis Girault: Girault, 1929: 23 (key); Huber, 1988: 31 (member of the *litoralis* species group); Yoshimoto, 1990: 41 (list, member of the *litoralis* species group).

Lymaenon partifuscipennis (Girault): Burks, 1958: 63 (catalog — not actually listed but referring to Peck [1951]); Peck, 1963: 25 (catalog).

Type material examined. Holotype ♀ [USNM] on slide (Fig. 18) labeled: [red] "Gonatocerus partifusci-pennis Girault Type No. 19916 U.S.N.M.". The holotype (Fig. 19) is mounted dorsoventrally, with the mesosoma partially crushed and one antenna and most of one fore leg detached; one hind wing is missing.

Brief redescription. Female. Body length 1328 µm. Body (Fig. 19) dark brown or black, legs except tarsi dark brown. Antenna (Fig. 19) with F1–F4 shorter than following funicle segments and without mps, F6 a little shorter than F5 or F7 and without mps, F5, F7 and F8 with 2 mps; fore wing (Fig. 20) 3.0x as long as wide, apical third of disc strongly infumate (forming a large brownish band) and remainder of disc contrastingly hyaline, more or less uniformly setose behind marginal vein; ovipositor about 1.9x mesotibia length, barely exserted beyond apex of gaster.

Male. Unknown.

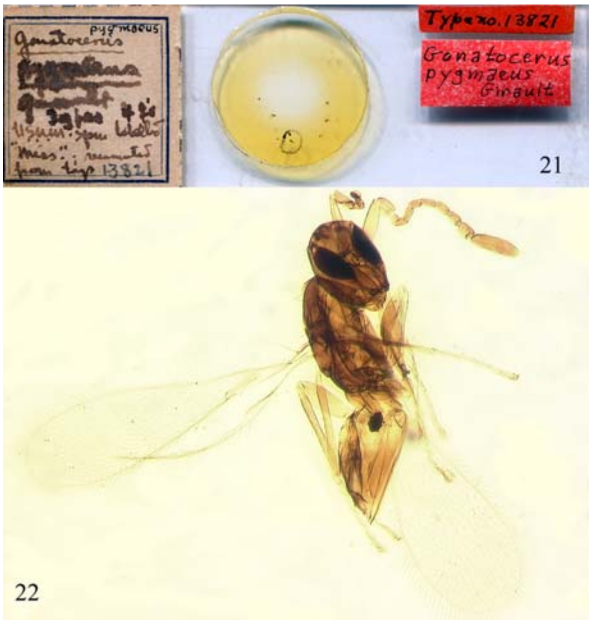
Distribution. USA.

Hosts. Unknown.

Gonatocerus (*Lymaenon*) *pygmaeus* Girault, 1911

Figs 21–25.

Gonatocerus pygmaeus Girault, 1911: 269–270, 274 (key) [as *pygmæus*]. Originally described from 5 females, although only 4 females were designated as "Types", the 5th female was designated as a "Cotype"; these are in fact all syntypes. Type locality: an unspecified locality in Mississippi, USA.



Figs 21, 22. *Gonatocerus* (*Lymaenon*) *pygmaeus*, ♀ lectotype: 21 — slide; 22 — habitus.

Рис. 21, 22. *Gonatocerus* (*Lymaenon*) *pygmaeus*, лектотип ♀: 21 — препарат; 22 — габитус.

Gonatocerus pygmaeus Girault: Girault, 1929: 27 (key); Huber, 1988: 31 (member of the *litoralis* species group).

Lymaenon pygmaeus (Girault): Burks, 1958: 63 (catalog — not actually listed but referring to Peck [1951]); Peck, 1963: 25 (catalog).

Gonatocerus pygmaenus [sic] Girault: Yoshimoto, 1990: 41 (misspelled, list, member of the *litoralis* species group).

Type material examined. Lectotype ♀ [USNM], here designated to avoid confusion about the status of the type specimens of this species, on slide (Fig. 21) labeled: 1. "*pygmaeus Gonatocerus pygmaeus* Girault Types 4 ♀'s. USNM. Spns labelled "Miss."; remounted from tags 13821 [in pencil]"; 2. [red] "Type no. 13821"; 3. [red] "*Gonatocerus pygmaeus* Girault". The lectotype (circled in black ink) is the lowermost (and the only specimen with the head attached) of the four syntypes mounted under the same coverslip, the others (all poorly mounted, with the heads detached) are paralectotypes. The lectotype (Fig. 22) is uncleared, mounted laterally, lacking F6–F8 and clava of one antenna and a hind wing. Another original syntype female on slide [INHS Accession No. 44,249], designated by Girault [1911] as a "Cotype" (not examined, apparently lost), would also be a paralectotype.

Material examined. Mexico, Nuevo León: Municipio El Carmen: El Carmen, 10.vii.1983, A. González-Hernández [1 ♀, UCRC]; Hacienda Bernabé Villarreal, 10.vii.1983, M.A. Rodríguez-Pérez [1 ♀, UCRC]. Municipio Santiago, El Cercado, Hacienda Las Tres Blanquitas, 9.vii.1983, F. Reyes-Vélez [2 ♀♀, UCRC]. USA: Georgia, Gordon Co., Fairmount, Salacoa Creek, 34°24′12″N, 84°40′08″W, 16.v.2002, D. Yanega [4 ♀♀, UCRC]. Maryland, Prince George's Co., Laurel, Patuxent Wildlife Research Center, 29.vi–6.vii.1979, M.E. Schauff [1 ♀, UCRC].

Brief redescription. Female (lectotype, Fig. 22). Body length 633 µm. Antenna with F3 longer than F1, F2, or F4, mps only on F8 (2) and clava; fore wing about 3.3x as long as wide, disc with sparse setae (a distinct bare area) behind marginal vein anterior to cubital row of setae, longest marginal seta 0.35–0.37x maximum wing width; ovipositor about 1.4x mesotibia length, barely exserted beyond apex of gaster.

Variation (females from Mexico). Body length 790 µm (slide-mounted specimen, Fig. 24); antenna (Fig. 23) with clava bearing at least 7 mps; fore wing (Fig. 25) about 3.6x as long as wide, longest marginal seta about 0.39x maximum wing width, discs of fore- and hind wings (Fig. 25) infumate throughout; ovipositor about 1.3x mesotibia length.

Male. Unknown.

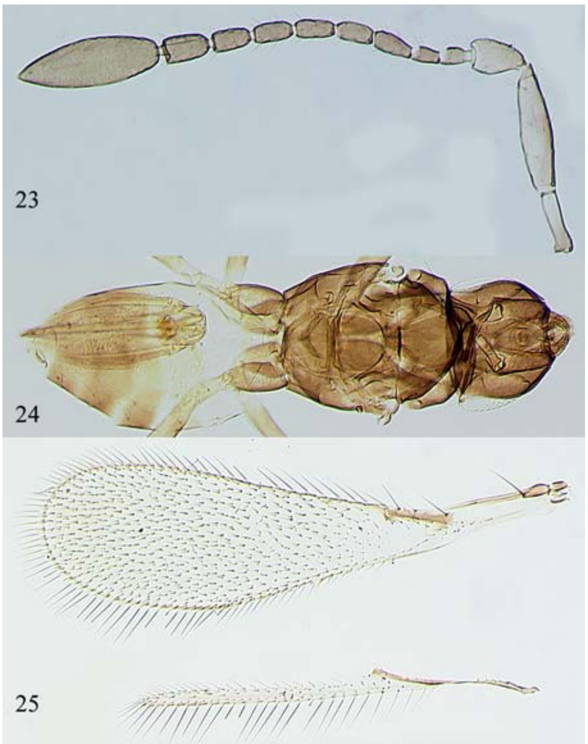
Diagnosis. *Gonatocerus pygmaeus* is similar to the Palaearctic species *G.* (*Lymaenon*) *thyrides* (Debauche, 1948) but in the latter the female antenna has mps on F7, and F3 is not longer than F1, F2, or F4 [Triapitsyn, 2013]. It is also similar to another Palaearctic species, *G.* (*Lymaenon*) *karlik* Triapitsyn, 2013, but female of the latter differs from that of *G. pygmaeus* in having F3 subequal in length to F1, F2, and F4, and also in lacking a distinct bare area on the fore wing disc behind the marginal vein anterior to the cubital row of setae [Triapitsyn, 2013], whereas in *G. pygmaeus* F3 is longer than F1, F2, or F4 (Fig. 23), and the fore wing disc has a distinct bare area behind the marginal vein anterior to the cubital row of setae (Fig. 25).

Distribution. Mexico [new record] and USA.

Hosts. Unknown.

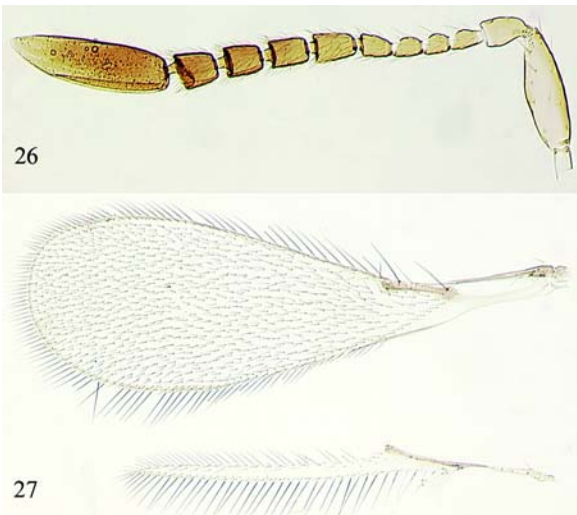
Gonatocerus (*Lymaenon*) *vladimiri* Triapitsyn, **sp.n.**
Figs 26–30.

Type material. Holotype ♀ [UCRC] on slide: USA, New York, Ontario Co., Geneva, 42°52′27″N 77°00′20″W, 177 m, 3.viii.2010, S.V. Triapitsyn (on willow, *Salix* sp., at Cornell University New York State Agricultural Experiment Station) [UCRC ENT 326762]. The holotype is complete, dissected under 3 coverslips (the antennae and wings are detached). Paratypes [UCRC]: same data as the holotype [1 ♂ on slide, UCRC ENT 326763, and 2 ♂♂ on points, UCRC ENT 326764 and 326765].



Figs 23–25. *Gonatocerus* (*Lymaenon*) *pygmaeus*, ♀ (El Cercado, Nuevo León, Mexico): 23 — antenna; 24 — body; 25 — wings.

Рис. 23–25. *Gonatocerus* (*Lymaenon*) *pygmaeus*, ♀ (El Cercado, Nuevo León, Mexico): 23 — усик; 24 — тело; 25 — крылья.



Figs 26, 27. *Gonatocerus* (*Lymaenon*) *vladimiri* sp.n., ♀ holotype: 26 — antenna; 27 — wings.

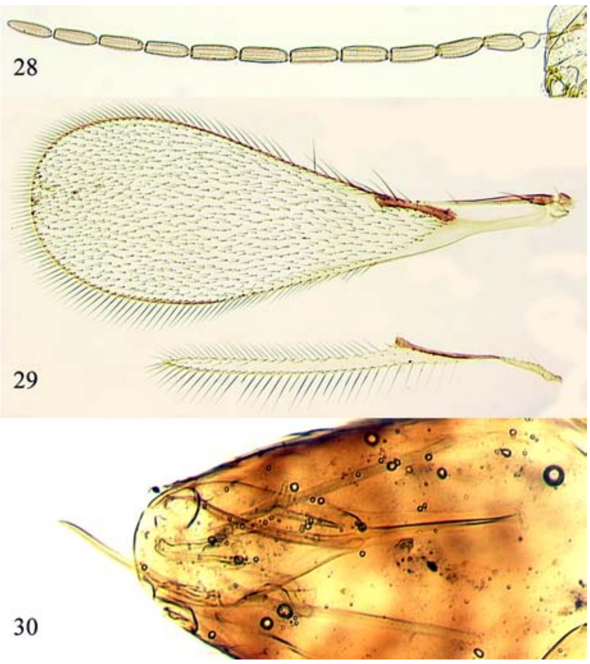
Рис. 26, 27. *Gonatocerus* (*Lymaenon*) *vladimiri* sp.n., голотип ♀: 26 — усик; 27 — крылья.

Description. Female. Face light brown, vertex mostly brown, gena brown, trabeculae dark brown; scape and pedicel light brown to brown, F1–F4 brown, F5–F8 and clava dark brown; mesosoma mostly light brown except midlobe of mesoscutum and propodeum medially (between submedian lines) contrastingly darker (brown); gaster light brown basally and apically but terga in the middle brown; legs mostly light brown except mesotibia, metatibia, and all apical tarsomeres a little darker (brown).

Antenna (Fig. 26) with radicle about 0.5x total length of scape, rest of scape 3.2x as long as wide, faintly longitudinally striate; pedicel longer than F1; F1–F4 short, without mps; F5–F8 more or less subequal in length but F5 the longest and F8 the broadest funicle segments, F8 deeply incised, mps on F5 (2), F6 (2), F7 (2), and F8 (4); clava with 10 mps, 3.4x as long as wide, longer than combined length of F6–F8.

Fore wing (Fig. 27) 3.1x as long as wide; longest marginal seta 0.28x maximum wing width; disc notably infumate, bare behind submarginal vein and densely setose elsewhere including the area between marginal vein and cubital row of setae. Hind wing (Fig. 27) about 20x as long as wide; disc with a slight brownish tinge and an incomplete row of setae besides admarginal rows of setae; longest marginal seta 2.7x maximum wing width.

Metasoma longer than mesosoma. Petiole 1.3x as wide as long. Ovipositor occupying 0.8x length of gaster, not exserted beyond its apex; ovipositor length: mesotibia length ratio 1.4:1.



28

29

30

Figs 28–30. *Gonatocerus* (*Lymaenon*) *vladimiri* sp.n., ♂ paratype: 28 — antenna; 29 — wings; 30 — genitalia.

Рис. 28–30. *Gonatocerus (Lymaenon) vladimiri* sp.n., паратип ♂: 28 — усик; 29 — крылья; 30 — гениталии.

Measurements (µm) of the holotype. Body (taken from the critical point-dried specimen before slide-mounting) 860; head (taken from the critical point-dried specimen before slide-mounting) 150; mesosoma 387; petiole 30; gaster 492; ovipositor 398. Antenna: radicle 79; rest of scape 155; pedicel 57; F1 33; F2 33; F3 36; F4 39; F5 53; F6 48; F7 47; F8 52; clava 206. Fore wing 984:320; longest marginal seta 91. Hind wing 775:39; longest marginal seta 106.

Male. Body length 958–991 µm (of dry-mounted, critical point-dried paratypes). Similar to female except for the normal sexually dimorphic features and the following. Head mostly light brown except trabeculae and ocellar triangle brown to dark brown; scape and pedicel light brown, flagellum brown; mesosoma mostly dark brown except pronotum brown, edges of mesoscutum laterally and apically and those of scutellum laterally contrastingly lighter (light brown); base of gaster yellow to light brown, remainder of gaster brown to dark brown; legs as in female. Antenna (Fig. 28) with scape plus radicle very short, 2.0–2.4x as long as wide, with faint cross-ridges. Fore wing (Fig. 29) 2.9x as long as wide; hind wing (Fig. 29) about 19x as long as wide. Genitalia as in Fig. 30.

Diagnosis. *Gonatocerus vladimiri* differs from *G. ornatus* in having a relatively shorter ovipositor which is not exserted beyond the gastral apex, as indicated in the key. It is also similar to the South American species *G. pratensis*, but the body of the latter is notably darker (brown to dark brown) and the female funicle is relatively longer [Triapitsyn et al., 2010].

Etymology. The species is named after my father.

Hosts. Unknown, but it is very probable that the host of this species could be *Idiocerus stigmaticalis* Lewis, 1834 (Cicadellidae: Idiocerinae): I collected numerous adults of this idiocerine leafhopper from the same willow tree at the same time as the type series of *G. vladimiri*. Several point-mounted leafhoppers from that collection had been sent to INHS where four of them were identified by Sindhu Krishnankutty as *I. stigmaticalis*; 33 additional point-mounted specimens were then tentatively identified as this species by me (UCRC ENT 388871–388907).

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